UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

SUBJECT:	CLEAN AIR ACT INSPECTION REPORT E.C. Styberg Engineering Co Inc., Racine, WI
FROM:	Brittany Cobb, Environmental Engineer AECAB (MI/WI)
THRU:	Sarah Marshall, Section Supervisor AECAB (MI/WI)
TO:	File

BASIC INFORMATION

Facility Name: E.C. Styberg Engineering Co. Inc.

Facility Location: 1600 Goold St, Racine, WI 53404

Date of Inspection: 8/23/2022

EPA Inspector(s):
1. Brittany Cobb, Environmental Engineer
2. Karina Kuc, Environmental Engineer
3. Meaghan Pashen, Environmental Engineer

Other Attendees:
1. Eric Lemke, Industrial Engineering Supervisor

Contact Email Address: elemke@styberg.com

Purpose of Inspection: Determine compliance with the Clean Air Act

Facility Type: Heavy industrial vehicle parts manufacturer

Regulations Central to Inspection: 40 CFR Part 63 Subpart T - National Emission Standards for Halogenated Solvent Cleaning, 40 CFR Part 63 Subpart XXXXXX - National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories

Arrival Time: 1:00 PM CT
Departure Time: 3:05 PM CT

Inspection Type:
☒ Unannounced Inspection
☐ Announced Inspection

OPENING CONFERENCE

☒ Presented Credentials
☒ Stated authority and purpose of inspection
☒ Provided Small Business Resource Information Sheet via email
☒ Provided CBI warning to facility

The following information was obtained verbally from Eric Lemke unless otherwise noted.

Company Ownership:
Three to four years ago the company became employee owned.

Process Description:
E.C. Styberg Engineering Co. Inc. (Styberg or facility) produces engines and transmission parts. The primary raw materials are coil and sheet carbon steel and stainless steel. The metal is cleaned with mineral spirits, trichloroethylene (TCE), and/or soap. Mineral spirits are stored in 55-gallon drums, there are five tanks located throughout the facility. A rust preventative solution is then applied to the metal in dips tanks. There are six "Rustguard" tanks and nine "Rustcheck" tanks. Rustguard is water based, Rustcheck is a mineral spirit-based rust preventative. The rust preventative tanks are equipped with covers and have floating plastic balls to control emissions. An acid dip tank containing a phosphoric and sulfuric acid mixture is used to remove rust and has no emission controls. The metal is then punch pressed, welded, grinded, heat treated and machined. There are three stationary welding stations for stainless steel that use metal rods. There are no emission controls for the machining/grinding operations.

Metal is heat treated in furnaces for approximately one hour at 1,000 °F. The metal is then oil quenched at 200 °F. The metal is hardened in the draw furnaces at 400 – 800 °F. Methanol is injected into the heat treat and draw furnaces to increase the carbon monoxide (CO) content. All the furnaces exhaust to atmosphere and have no controls, the heat source is natural gas. There are six heat treat furnaces (two which use a nitrogen blanket), two hardening furnaces, and two oil quench tanks. Emissions from the oil quench tanks are controlled with filters and baffles.

The facility has two methanol storage tanks, one 4,000-gallon tank underground and one 200-gallon tank above ground. There is also one 6,000-gallon nitrogen storage tank.

Staff Interview:
Styberg's normal hours of operation are Monday – Thursday 5:00 AM to 5:00 PM. The facility is occasionally open Friday and Saturday up to 10 hours per day, based on demand. There are 135 employees.

Styberg maintains a log of TCE additions. The temperature of the TCE system is controlled with non-contact cooling water, two cooling coils with refrigerant in them, and a distillation unit. There is also a cooling blanket that all spraying operations are performed in and locked hoses for pumping the TCE. Styberg has not used TCE since March 2022 because the cooling coils broke. The facility put the TCE in sealed barrels and is currently using mineral spirits, soap, and an ultrasonic cleaner. The facility is testing a new washing technique to replace TCE.

Styberg has been addressing a TCE spill and TCE in the groundwater under the supervision of the Wisconsin Department Natural Resources (WDNR). EPA will follow up for more information.

There was a performance test on the oil quench tank. Eric Lemke was unsure if there was performance test on the TCE system.

TOUR INFORMATION

EPA Tour of the Facility: Yes

Data Collected and Observations:
EPA was led on a tour of the facility by Eric Lemke. EPA viewed the hydraulic press, methanol, and nitrogen tanks. EPA observed the following: the parts cleaner, which uses soap, exhausts to the atmosphere; coolant is used to control dust from grinders; and the TCE tank was empty and that the barrels containing TCE were labeled and sealed.

The Rustguard tanks were not covered and did not have balls. The Rustcheck tanks had covers but not all the tanks had balls. According to Wis. Stats. s. 285.65(13), consent order AM-98-200, and Permit No. 252009780-F10 all tanks shall be equipped with covers, and the cover on any tank shall be closed whenever the tank is not in use. Additionally, plastic balls shall be floated on, and cover the entire surface of, the rust preventative solution in all tanks. If parts are too large to be dipped with the balls in place, the balls may be removed, but shall be replaced as soon as the large parts have been removed from the tanks.

Photos and/or Videos: were taken during the inspection.

Field Measurements: were not taken during this inspection.

RECORDS REVIEW

1. TCE additions log

CLOSING CONFERENCE

☒ Provided U.S. EPA point of contact to the facility

Requested documents:

- SDS for the oil used in the hobbers
- SDS for Cimtech 100 – metalwork fluid
- SDS for the welding rod
- SDS for the mineral spirit
- 2021 emission report with emission calculations
- WI DNR correspondence related to the TCE spill
- Design standards for the TCE tank
- Any performance tests on the TCE tank and oil quench tanks
- Methanol throughput

DIGITAL SIGNATURES

Report Author: Brittany Cobb Digitally signed by Brittany Cobb Date: 2022.09.21 13:47:46 -05'00'

Section Supervisor: SARAH MARSHALL Digitally signed by SARAH MARSHALL Date: 2022.09.21 14:22:08 -05'00'

APPENDICES AND ATTACHMENTS

Appendix A - Digital Image Log

Facility Name: E.C. Styberg Engineering Co. Inc.
Facility Location: 1600 Goold St, Racine, WI 53404
Date of Inspection: August 23, 2022

APPENDIX A: DIGITAL IMAGE LOG

1. **Inspector Name:** Karina Kuc	2. **Archival Record Location:** *https://usepa.sharepoint.com/:f:/r/sites/R5_Work/r5erc/ecad/AECAB%20Library/Enf_Styberg_WI_22/Enf_Styberg_WI_22_Insp/Styberg?csf=1&web=1&e=HZQ6GR*

Image Number	File Name	Date and Time (Central time)	Description of Image
1	P8230001.JPG	2022:08:23 14:08:27	Oil quench tank
2	P8230002.JPG	2022:08:23 14:23:02	Oil used for pressing
3	P8230003.JPG	2022:08:23 14:25:20	Mineral spirit tank
4	P8230004.JPG	2022:08:23 14:25:25	Mineral spirit tank
5	P8230005.JPG	2022:08:23 14:30:30	Parts washer soap
6	P8230006.JPG	2022:08:23 14:39:45	Rustcheck tank
7	P8230007.JPG	2022:08:23 14:53:05	TCE additions log
8	P8230008.JPG	2022:08:23 14:53:45	TCE emission calculations
9	P8230009.JPG	2022:08:23 14:53:54	TCE additions log